DOCUMENT RESUME

ED 044 304 SE 010 129

AUTHOR	Hoefner, Ferdinand, Jr.
TITLE	An Experiment to Evaluate the Effectiveness of a Learning Laboratory Approach for Fifth and Sixth Grade Underachievers in Language Arts and Arithmetic. Final Report.
INSTITUTION	Wantagh Public Schools, N.Y.
SPONS AGENCY	New York State Education Dept., Albany. Div. of Research.
PUB DATE	Aug 70
NOTE	47p.
EDRS PRICE	EDRS Price MF-$0.25 HC-$2.45
DESCRIPTORS	*Arithmetic, *Elementary School Mathematics, Experimental Programs, Grade 5, Grade 6, *Instruction, *Language Arts, *Underachievers

ABSTRACT

Fifty-eight fifth and sixth grade students, identified as underachievers in language arts and arithmetic, received special instruction in a learning laboratory setting over a period of three years. The laboratory was a room equipped with designated learning centers and the lab team consisted of a teacher, an aide, and a part-time psychologist. The students were scheduled in groups of eight to ten to receive individually prescribed instruction for six minutes each day. A multi-media approach was used and instruction was aimed at the development of skills in listening, writing, speaking, and arithmetic computation, conceptualization and application. A control group matched for sex, mental ability, achievement levels, and participation in remedial programs received regular classroom instruction. Analyses of data made at the end of each of the three years did not indicate that the special treatment had any significantly positive effect on achievement as measured by the instruments used. Conclusions drawn suggest that the experimental approach employed came too late in the students' school experience. (FL)

EDO 44304

N-SG

CG

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

An Experiment to Evaluate the Effectiveness of a Learning Laboratory Approach for Fifth and Sixth Grade Underachievers in Language Arts and Arithmetic

Ferdinand Hoefner, Jr.
Principal Investigator

Union Free School District #23
Wantagh, New York

August 1970

Final Report

New York State Experimental and Innovative Programs
Article 73, Section 3602a, Subdivision 14 of the
Education Law.

The Research Reported Herein was Supported by the New York State Education Department, Division of Research
Albany, New York 12224

SE 010 129

EDO 44304

An Experiment to Evaluate the Effectiveness of a Learning Laboratory Approach for Fifth and Sixth Grade Underachievers in Language Arts and Arithmetic

Ferdinand Hoefner, Jr.
Principal Investigator

August 1970

The work upon which this report is based was supported jointly by the Union Free School District #23, Wantagh, N.Y. and the New York State Education Department under article 73, section 3602a, subdivision 14 of the Education Law. Agencies undertaking such projects are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official policy of the New York State Education Department.

Union Free School District #23
1865 Beech Street
Wantagh, N.Y. 11793

ACKNOWLEDGEMENTS

A project which spans a three year period necessarily involves the time, talents, and energies of many people. Then there are innumerable others who, though on the periphery, have given support to experimentation through interest and encouragement. To attempt to name all such contributors would be a difficult task and complicated ty the possibility of a chance omission of one or more.

There are those, however, in the school community whose active participation is especially deserving of this investigator's recognition. I wish to thank the members of the Wantagh Board of Education for their continued positive response to meaningful experimentation; Dr. Charles T. St. Clair, Superintendent of Schools, for his personal, professional, and moral support; the principals and teachers in all the elementary schools for their cooperation and counsel; and the parents of Wantagh for their interest and concern.

Mrs. Adele Parker and Mrs. Eleanor Stahl, Elementary Supervisory Assistants, were especially helpful with the rigorous and time-consuming testing program.

Finally, the task of this investigator was lightened by the cooperation and assistance of Walter R. Suess, Assistant Superintendent for Curriculum and Instruction, Mrs. Rose Woodhead, Assistant Principal of the Wantagh School, who wrote the final report, and by the professional dedication of the Laboratory Team, Mrs. Elizabeth Wilson, Mrs. Carol Taylor, and Mrs. Celina Biniaz.

Ferdinand Hoefner, Jr.
Principal Investigator

Contents

	Page
Introduction	1
Procedures	3
Results.	7
Discussion	21
Summary	23
References	25

Appendices

A. WRITTEN EXPRESSION INSTRUCTIONS RELATING TO THE ASSIGNMENT OF WRITTEN REPORTS

B. ORAL EXPRESSION TEST, SUNRISE PARK LEARNING LABORATORY EXPERIMENT 1967

Tables

		Page
I	Titles, Examiners, and Schedules of Tests for Pre and Post-Testing	6
II	Analyses of Variance and Means of I.Q. and Pre-test Achievement Scores for Experimental and Control Groups - 1967	8
III	Analyses of Variance and Means of I.Q. and Pre-test Achievement Scores for Experimental and Control Groups - 1968	9
IV	Analyses of Variance and Means of I.Q. and Pre-test Achievement Scores for Experimental and Control Groups - 1969	10
V	Analyses of Variance and Means of Post-test Achievement Scores for Experimental and Control Groups - 1967	12
VI	Analyses of Variance and Means of Post-test Achievement Scores for Experimental and Control Groups - 1968	13
VII	Analyses of Variance and Means of Post-test Achievement Scores for Experimental and Control Groups - 1969	14
VIII	Coefficients of Correlations Between I.Q. and Achievement Scores - 1967 Groups	15
IX	Coefficients of Correlations Between I.Q. and Achievement Scores - 1968 Groups	16
X	Coefficients of Correlations Between I.Q. and Achievement Scores - 1969 Groups	16
XI	Correlations of Pre and Post Achievement Measures - 1967	17
XII	Correlations of Pre and Post Achievement Measures - 1968	17
XIII	Correlations of Pre and Post Achievement Measures - 1969	17

		Page
XIV	Analyses of Variance and Means of I.Q. and Pre-test Achievement Scores for the Two Year Experimental and Control Groups - 1968	18
XV	Analyses of Variance and Means of Post-test Achievement Scores for Two Year Experimental and Control Groups - 1968	19
XVI	Analyses of Variance and Means of I.Q. and Pre-test Achievement Scores for the Two Year Experimental and Control Groups - 1969	20
XVII	Analyses of Variance and Means of Post-test Achievement Scores for Two Year Experimental and Control Groups - 1969	21

INTRODUCTION

STATEMENT OF THE PROBLEM

Educators at every level have had for decades at least one common goal in their repertoire of educational objectives, namely the development to the fullest of the potential of each individual student. They and we have striven to reassess the concept of potentiality and to create better conditions for its fullest development. The task is a formidable one, as evidenced by the persistent presence of "underachievement" in our schools. Within the context of this study, underachievement is defined as inferior academic performance on the part of students whose predictable achievement is considerably greater. Teachers' observations and students' I.Q.'s as measured by group I.Q. tests were the basic criteria used in determining predictable behavior. We are aware that such determination may be limited by errors of measurement, heterogeneity of criterion, limited scope in the predictors and impact of varied experiences upon the individual (13).

The Wantagh Board of Education, with vision and courage, often handicapped by limited funds, has focused on the development of individual potential and has approved many educational programs designed to diminish, if not eliminate, the problem of underachievement. Remedial reading, speech therapy, supportive-tutorial instruction, and summer reading and mathematics programs have been provided for students, who for one or more identifiable reasons continue to have difficulty learning. The main learning arena has been the conventional classroom and even special services have been characterized by mostly traditional methods and environment.

These remedial services have had a positive but limited success, as noted by the percentage of students at every level scoring below minimal competency on standardized tests and the numbers identified by classroom teacher evaluation as "underachievers." This project was initiated in September 1967 when 130 fifth and sixth grade students, representing 15% of the referenced population, were identified by teacher evaluation and analyses of test scores as underachievers in language arts and arithmetic.

It has been the purpose of this experiment to identify a selected number of fifth and sixth grade underachievers in language arts and arithmetic from the Wantagh Elementary Schools; to alter the learning environment and plan an individually prescribed instructional program in the skills of language and arithmetic for one-half of the group while maintaining the standard educational program for the other half; and to measure at the end of each of three successive years the effectiveness of the modified educational environment.

RELATED RESEARCH AND RATIONALE

An examination of the literature and research, as it relates to underachievers and the educational treatment anticipated in this experiment, revealed little that would have particular significance or relevance to this experiment.

Much of the research on underachievement has been concerned with procedures for identifying underachievers. (1) (2) (13). Many studies have focused on high school and college underachievement and special programs at these levels. (1) (12). It would appear, from available literature, that many investigators have attended to the relationship between underachievement and areas in the affective domain, especially anxiety, self-concept, social attitudes and peer-relationships. (3) (4) (6) 12).

As early as 1925, the National Society for the Study of Education evidenced interest in individualization through its XXIV Yearbook, Part II, Adapting the Schools to Individual Differences. But it has been the decade of the 1960's that has seen the most thoughtful of the educational literati attend to the virtues, indeed suggest a mandate, to individualize instruction, to release potential in the individual learner, to adjust methods of teaching to individual modes of learning, and to alter the school environment which has frequently alienated learners. (3) (5) (9) (11). Lee and Peter have provided guidelines for teachers to diagnose and prescribe in individualizing instruction. (7) (8) (10).

The dearth of related research, with reference to the specifics of this experiment, and the availability of guidelines for individualization, have provided impetus for initiation of this study.

OBJECTIVES

A. The following hypothesis states the primary objective of the experiment:

Children who receive individually prescribed instruction, based upon careful and comprehensive diagnosis, in a learning laboratory setting, will differ significantly in their growth in selected skills from their counterparts who remain full-time in a regular classroom. The selected skills are:

1. Language Arts skills in listening, oral expression, and written expression.

2. Arithmetic skills in computation, conceptualization, and application.

B. Secondary objectives of the experiment are:

1. To develop a collection of instructional procedures and to identify specific modalities, appropriate and effective in their impact on the learning of intermediate grade underachievers.

2. To disseminate the findings of this experiment throughout the Wantagh School District and New York State.

PROCEDURES

SUBJECTS

Over the three year term of this project a total of fifty-eight (58) experimental subjects and a like number of control subjects have been involved in the study. Twenty-eight (28) of the experimental subjects have had two years of the special educational treatment and thirty (30) have had a one year enrollment in the project. All subjects were either fifth or sixth grade students at the time of their participation.

During the 1967-68 school year thirty (30) subjects, enrolled in the Sunrise Park School constituted the experimental group. Of this group, twelve (12) of the subjects who had been fifth graders continued in the program for a second year as sixth graders and an additional sixteen (16) fifth graders were added to make a total of twenty-eight experimental subjects for the 1968-69 school year. For the last year of the project, 1969-70, sixteen (16) subjects continued for a second year and twelve (12) new subjects were added. This latter group as well as the 1967-68 sixth graders had only one year in the project.

All fifty-eight (58) of the experimental subjects were students enrolled in the Sunrise Park Elementary School. The fifty-eight control subjects were enrolled in either the Forest Lake or the Mandalay School. Both of these schools, like the Sunrise Park School are organized K-6, have similar enrollment, and represent a similar socio-economic population.

Initial identification, as "underachievers" in language arts and arithmetic, of both experimental and control subjects was made by classroom teachers, based upon analyses of daily work, scores on standardized tests, and student participation in the school's remedial programs (e.g. remedial reading, supportive education, speech improvement). Observations and judgements of the project psychologist and special area teachers were also considered in the final selection of subjects.

Experimental and control subjects were matched for sex, mental ability, achievement as measured by standardized tests and participation in remedial programs.

EDUCATIONAL TREATMENTS

1. Physical Facilities

The "Learning Laboratory" is a standard size classroom. The room has designated learning centers: 2 wet carrels with four stations each for independent viewing, listening, writing; a language center housing a Language Master, filmstrip viewer, tape recorder-player, record player, and picture collection; an arithmetic center furnished with round table, molded chairs and containing multi-sensory, multi-dimensional mathematics equipment and supplies; a seminar center, carpeted and furnished with stuffed sofa and chairs, library table, and housing a wide selection of textual materials and trade books; an instructional materials center for individual independent study; an interview center for individual parent-teacher, student-teacher, and/or teacher-teacher conferences; and a file center with individual notebooks for each student containing daily, dated learning task assignments.

2. Student Scheduling

All experimental subjects were scheduled in the lab daily. Groups of no more than 8-10 students met for sessions that totaled approximately sixty minutes each day. The flexibility of the scheduling allowed for either one or two periods daily in the lab. Instruction during these periods was on a one-to-one basis, or in small groups. Some assignments were made for individual-independent study.

The lab team, with some cooperation of classroom teachers, prepared individual, daily, and weekly assignment schedules for each subject. This provided a graphic description of the full educational experience of each subject and assured his participation in a balanced school program. These prescriptions were kept in individual student booklets and constitute a case-study record for each student.

3. Diagnoses of Skills Development

Performance and scores of experimental subjects on tests administered as "pre-tests" were studied and analyzed by the Laboratory Team (Teacher, Aide, Psychologist), Building Supervisory Assistant, and Principal Investigator.

Stanford Diagnostic Arithmetic Test, Form W, Level I, was administered by the lab teacher to experimental subjects in mid-September of each of the three years, i.e. 1967, 1968, 1969.

The results of the aforementioned procedures were used in planning instructional programs for subjects.

4. Methods and Materials for Instruction

A multi-media instructional approach coupled with individual personal counseling characterized the experimental program.

The following equipment and materials were used for small group and individual instruction:

a. Equipment - record players, tape recorders, play-back recorder, filmstrip viewers, 8 mm single concept projectors, 8 mm standard movie projector, overhead projector, listening centers.

b. Materials - Learning Center math "concretes"; Cyclo-Teacher; EDL Study Skills Kits; Math Practice Pictures; Math Practice Slates; Lyons & Carnahan Spelling Workbooks; "Know Your World," a weekly publication; films and filmstrips; teacher-aide prepared worksheets and tapes; variety of learning games, e.g. Password, Quizmo, Scrabble for Juniors, Tell-Time, Anagrams, Milles Bornes, Kodak sequence photos, EDL Listen and Think tapes, SRA Math Skill Tapes, and selected Math texts.

INSTRUMENTS USED

1. All subjects were pre-tested and post-tested in selected language arts and arithmetic skills. Titles of tests and timetable are presented in Table I.

TABLE I. Titles, Examiners, and Schedules of Tests for Pre and Post Testing

Test Name	Examiner	Pre-test Date	Post-test Date	Testing Time [a]
Stanford Achievement Test - Int. Battery I, forms X and W (grade 5) Int. Battery II, forms W and X (grade 6)				
Language	Classroom Teachers	Oct.1967, 68, 69	May 1968, 69, 70	60 min.
Arithmetic Computation				40 min.
Arithmetic Concepts				60 min.
Arithmetic Applications				
STEP Listening Test Level 4, forms 4A and 4B	Elementary Supervisory Assistants or delegate	Sept.1967, 68, 69	May 1968, 69, 70	130 min. (two sittings)
Written Expression Test [b]	Classroom Teachers	Sept.1967, 68, 69	June 1968, 69, 70	60 min. (draft & final copy)
Oral Expression Test (alternate film loops for pre and post tests) [b]	Elementary Supervisory Assistants or delegate	Oct.1967, 68, 69	June 1968, 69, 70	10 min.

[a] Includes time for instruction
Testing time same for pre and post test

[b] Appendices A and B describe the locally developed Test of Written Expression and Test of Oral Expression respectively.

2. The Lorge-Thorndike Intelligence Test, Non-Verbal Battery, Form A, is administered to all fourth grade students in the spring of each year as part of the district group testing program. Analyses of these results were used to identify new subjects for each of the project years.

PROCEDURES USED FOR DATA ANALYSES

The significance of the differences between the means of the experimental and control groups was tested by means of a single classification analysis of variance. The pre-test differences were examined in order to determine the initial equivalence of the two groups on the measures employed. The post-test differences were examined in order to evaluate the effectiveness of the program on the measures employed.

For each variable where there were significant differences between the means of the pre-test and post-test scores, an analysis of covariance was employed on the post-test scores, employing the pre-test as a covariate.

The coefficients of correlation between IQ and each of the achievement variables were computed and tested for significance. The correlations between pre and post tests were also computed. All correlations were obtained for experimental and control groups separately.

The mean achievement scores of experimental subjects who were completing two years in the program were compared with the mean scores of those students who were completing two years in the control group. These differences were examined to determine existence of a cumulative effect over a two year period.

RESULTS

The means and analyses of variance of the pre-test scores for the experimental and control groups are presented in Tables II (1967), III (1968), and IV (1969).

The means of the two 1967 and 1968 groups were not significantly different on seven of the eight initial measures. The 1967 control group obtained a significantly higher mean score on the written expression measure. The 1968 control group obtained a significantly higher mean score on the arithmetic concepts measure.

The means of the two 1969 groups were not significantly different on six of the eight variables. The control group obtained a significantly higher mean score on the arithmetic computation measure and the experimental group obtained a significantly higher mean on the oral expression score.

TABLE II. Analyses of Variance and Means of IQ and Pre-test Achievement Scores for Experimental and Control Groups - 1967

	VARIANCE			MEANS	
	df	Mean Square	F	p	Experimental	Control
I.Q.						
Between	1	1.50			97.25	96.93
Within	56	137.52	.01	-	(28)	(30)
Language						
Between	1	1.22			3.40	3.69
Within	55	.86	1.41	-	(28)	(29)
Arith. Computation						
Between	1	.54			4.00	4.19
Within	55	.84	.64	-	(27)	(30)
Arith. Concept						
Between	1	1.85			4.32	4.68
Within	55	1.42	1.30	-	(27)	(30)
Arith. Applications						
Between	1	.26			4.09	3.95
Within	55	.78	.33	-	(27)	(30)
STEP Listening						
Between	1	33.00			259.85	258.33
Within	56	139.37	.23	-	(28)	(30)
Written Expression						
Between	1	112.51			8.50	11.31
Within	55	24.05	4.67	.05	(28)	(29)
Oral Expression						
Between	1	.70			6.17	6.40
Within	56	5.09	.13		(28)	(30)

TABLE III. Analyses of Variance and Means of IQ and Pre-test Achievement Scores for Experimental and Control Groups - 1968

SOURCE OF VARIATION	VARIANCE			MEANS	
df	Mean Square	F	p	Experimental	Control
				I.Q.	
Between 1	.01			101.75	101.78
Within 54	111.11	.00	-		
				Language	
Between 1	1.17			3.83	4.12
Within 54	1.05	1.11	-		
				Arith. Computation	
Between 1	.58			3.84	4.04
Within 54	.66	.87	-		
				Arith. Concepts	
Between 1	3.20			4.49	4.97
Within 54	.79	4.01	.05		
				Arith. Applications	
Between 1	1.23			4.23	4.53
Within 54	.64	1.90	-		
				STEP Listening	
Between 1	22.00			255.14	256.39
Within 54	99.24	.22	-		
				Written Expression	
Between 1	8.64			10.21	11.00
Within 54	19.97	.43	-		
				Oral Expression	
Between 1	.44			6.75	6.57
Within 54	6.74	.06	-		

TABLE IV. Analyses of Variance and Means of IQ and Pre-test Achievement Scores for Experimental and Control Groups - 1969

SOURCE OF VARIATION	VARIANCE			MEANS	
df	Mean Square	F	p	Experimental	Control
				I.Q.	
Between 1	.05			99.89	99.96
Within 54	109.99	.00	-		
				Language	
Between 1	.16			4.22	4.33
Within 54	1.49	.10	-		
				Arith. Computation	
Between 1	7.65			3.66	4.40
Within 54	.63	12.08	.05		
				Arith. Concepts	
Between 1	.28			4.85	5.00
Within 53	1.42	.20	-		
				Arith. Applications	
Between 1	2.64			4.12	4.56
Within 53	1.03	2.56	-		
				STEP Listening	
Between 1	2.38			256.67	256.25
Within 50	104.49	.02	-		
				Written Expression	
Between 1	31.49			12.82	11.32
Within 54	27.00	1.16	-		
				Oral Expression	
Between 1	36.15			8.42	6.82
Within 54	6.35	5.69	.05		

The data cited in Tables V, VI, and VII present the means, analyses of variance, and covariance for the post-test scores for the experimental and control groups for each of the project years, 1967, 1968, and 1969.

The means of the two 1967 groups were not significantly different on six of the seven post-test scores. The control group obtained a significantly higher mean score on the Language test.

The means of both the 1968 and 1969 groups were not significantly different on five of the seven post-test scores. The 1968 experimental group obtained significantly higher mean scores on the written expression and oral expression measures. The results of the 1969 analyses reflected a pattern of significant differences identical with the pre-test scores. The 1969 control group was higher on the arithmetic computation and the experimental group was higher on the oral expression. When the covariance analysis was done, it was found that the control group was still significantly higher on the arithmetic computation score and that there was no significant difference on the oral expression score.

TABLE V. Analyses of Variance and Means of Post-test Achievement Scores for Experimental and Control Groups - 1967

	VARIANCE			MEANS	
	df	Mean Square	F	p	Experimental	Control
Language						
Between	1	9.30			3.62	4.42
Within	56	1.29	7.20	.01	(28)	(30)
Arith. Computation						
Between	1	.05			4.67	4.73
Within	56	.96	.05	-	(28)	(30)
Arith. Concepts						
Between	1	.54			5.24	5.05
Within	56	1.54	.35	-	(28)	(30)
Arith. Applications						
Between	1	.54			4.14	4.34
Within	56	.99	.54	-	(28)	(30)
STEP Listening						
Between	1	24.00			261.28	262.59
Within	56	119.52	.20	-	(28)	(30)
Written Expression						
Between	1	10.34			13.82	14.66
Within	56	34.37	.30	-	(28)	(30)
Oral Expression						
Between	1	4.99			7.74	8.33
Within	55	8.25	.60	-	(27)	(30)

TABLE VI. Analyses of Variance and Means of I.Q. and Post-test Achievement Scores for Experimental and Control Groups - 1968

SOURCE OF VARIATION	VARIANCE			MEANS	
df	Mean Square	F	p	Experimental	Control
				Language	
Between 1	2.08			4.24	4.63
Within 54	1.51	1.37	-		
				Arith. Computation	
Between 1	.44			4.34	4.52
Within 54	.72	.61	-		
				Arith. Concepts	
Between 1	.03			5.05	5.10
Within 54	1.06	.03	-		
				Arith. Applications	
Between 1	.77			4.55	4.78
Within 54	.95	.81	-		
				STEP Listening	
Between 1	59.00			259.00	256.92
Within 54	151.25	.39	-		
				Written Expression	
Between 1	147.87			15.32	12.07
Within 54	29.55	5.00	.05		
				Oral Expression	
Between 1	52.07			9.53	7.60
Within 54	5.73	9.08	.01		

TABLE VII. Analyses of Variance and Means of I.Q. and Post-test Achievement Scores for Experimental and Control Groups - 1969

SOURCE OF VARIATION	VARIANCE			MEANS	
	df	Mean Square	F	p	Experimental	Control
Language						
Between	1	.04			4.47	4.42
Within	54	1.83	.02	-		
Arith. Computation						
Between	1	13.01 (3.62)*			4.17 (4.37)*	5.13 (4.93)*
Within	54 (53)*	1.04 (.873)*	12.46 (4.14)*	.05 (.05)*		
Arith. Concepts						
Between	1	1.89			4.79	5.16
Within	54	1.98	.95	-		
Arith. Applications						
Between	1	.44			4.68	4.50
Within	54	1.24	.35	-		
STEP Listening						
Between	1	385.87			263.67	268.92
Within	54	127.33	3.03	-		
Written Expression						
Between	1	13.01			11.85	12.82
Within	54	23.25	.55	-		
Oral Expression						
Between	1	55.99 (21.00)*			8.14 (7.78)*	6.14 (6.49)*
Within	54 (53)*	8.90 (7.80)*	6.28 (2.69)*	.05		

* adjusted value

Tables VIII, IX, and X present the coefficients of correlation between I.Q. and each of the achievement variables for each of the project years.

For the 1967 experimental group, there were only two significant correlations with the pre-test scores. None of the correlations for the control group pre-test scores were significant. The correlations of I.Q. with post-test scores were significant in four instances for the experimental group and not significant in any instance for the control group.

For the 1968 experimental group, there were four significant correlations with the pre-test scores. One of the correlations of I.Q. with achievement for the control group pre-test scores was significant. The correlations of I.Q. with post-test scores were significant in three instances for the experimental group and significant in one instance for the control group.

For the 1969 experimental group there were three significant correlations with the pre-test scores. Two of the correlations of I.Q. with pre-test scores were significant in the control group. The correlations of I.Q. with post-test scores were significant in two instances for both the experimental and control groups.

TABLE VIII. Coefficients of Correlation Between I.Q. and Achievement Scores - 1967 Groups

	Lang.	Arith. Comp.	Arith. Con.	Arith. Appl.	STEP Listening	Written Expr.	Oral Expr.
				Experimental			
Pre test	.32	-.02	.26	.44*	.46*	.05	.28
Post test	.47*	.22	.64*	.49*	.67*	.17	-.09
				Control			
Pre test	.00	-.12	-.01	.21	.07	-.14	.00
Post test	.14	-.16	.14	.34	.34	-.09	-.09

* Significant at .05 level

TABLE IX. Coefficients of Correlation Between I.Q. and Achievement Scores - 1968 Groups

	Lang.	Arith. Comp.	Arith. Con.	Arith. Appl.	STEP Listening	Written Expr.	Oral Expr.
				Experimental			
Pre test	.41*	.34	.40*	.51*	.53*	.20	-.17
Post test	.32	.14	.46*	.49*	.34	.11	.38*
				Control			
Pre test	.18	.21	.50*	.16	.18	.33	-.20
Post test	.26	.20	.23	.38*	.34	.31	-.06

* Significant at .05 level

TABLE X. Coefficients of Correlation Between I.Q. and Achievement Scores - 1969 Groups

	Lang.	Arith. Comp.	Arith. Con.	Arith. Appl.	STEP Listening	Written Expr.	Oral Expr.
				Experimental			
Pre test	.39*	.14	.34	.24	.46*	.37*	.09
Post test	.49*	.31	.33	.30	.55*	-.12	-.08
				Control			
Pre test	.49*	.10	.28	.22	.09	.39*	-.05
Post test	.31	.26	.28	.40*	.28	.40*	.05

* Significant at .05 level

The correlations between pre-test and post-test scores for achievement measures are presented in Tables XI, XII, and XIII. For the first year (1967) group all of the correlations except the one for written expression in the experimental group were significant. In the 1968 experimental group the test and retest correlation was not significant. In that year's control group there were two nonsignificant test-retest correlations, the arithmetic computation and the STEP Listening test. In the last year's experimental group, the test-retest correlations for arithmetic computation, written expression, and oral expression were not significant. In the control group all of the test-retest correlations were significant.

TABLE XI. Correlations of Pre and Post Achievement Measures - 1967

	Lang.	Arith. Comp.	Arith. Con.	Arith. Appl.	STEP Listening	Written Expr.	Oral Expr.
Experimental	.69*	.48*	.48*	.46*	.77*	.29	.43*
Control	.67*	.58*	.58*	.42*	.78*	.39*	.42*

* Significant at .05 level

TABLE XII. Correlations of Pre and Post Achievement Measures - 1968

	Lang.	Arith. Comp.	Arith. Con.	Arith. Appl.	STEP Listening	Written Expr.	Oral Expr.
Experimental	.48*	.61*	.73*	.73*	.86*	.19	.50*
Control	.83*	.35	.65*	.52*	.38	.56*	.49*

* Significant at .05 level

TABLE XIII. Correlations of Pre and Post Achievement Measures - 1969

	Lang.	Arith. Comp.	Arith. Con.	Arith. Appl.	STEP Listening	Written Expr.	Oral Expr.
Experimental	.74*	.25	.51*	.38*	.76*	.13	.29
Control	.80*	.55*	.71*	.80*	.78*	.69*	.52*

* Significant at .05 level

A within group analysis of the two year effectiveness of the program was done for the 1968 and 1969 groups. Tables XIV and XV present the means and analyses of variance of the pre-test and post-test scores of the experimental and control two-year groups who were in the program for the 1968-69 school year. There were no significant differences between the means of the two groups on the pre-test scores. On the post-test scores the control group obtained a significantly higher mean score on the language test.

TABLE XIV. Analyses of Variance and Means of I.Q. and Pre-test Achievement Scores for the Two year Experimental and Control Groups - 1968

SOURCE OF VARIATION	VARIANCE			MEANS	
df	Mean Square	F	p	Experimental	Control
			I.Q.		
Between 1	1.03			99.25	104.20
Within 25	1.16	1.40	-		
			Language		
Between 1	1.82			4.18	4.70
Within 25	1.30	1.40	-		
			Arith. Computation		
Between 1	.13			4.26	4.12
Within 25	.75	.17	-		
			Arith. Concepts		
Between 1	.51			4.84	5.12
Within 25	.74	.69	-		
			Arith. Applications		
Between 1	.37			4.47	4.71
Within 25	.64	.58	-		
			STEP Listening		
Between 1	.00			256.83	256.93
Within 25	.78	.00	-		
			Written Expression		
Between 1	.08			12.83	11.73
Within 25	.21	.38	-		
			Oral Expression		
Between 1	.06			8.08	7.06
Within 25	.07	.95	-		

TABLE XV. Analyses of Variance and Means of I.Q. and Post-test Achievement Scores for the Two year Experimental and Control Groups - 1968

SOURCE OF VARIATION	VARIANCE			MEANS	
df	Mean Square	F	p	Experimental	Control
			Language		
Between 1	12.91			3.84	5.23
Within 25	1.21	10.63	.01		
			Arith. Computation		
Between 1	.05			4.85	4.76
Within 25	.94	.05	-		
			Arith. Concept		
Between 1	.22			5.30	5.12
Within 25	.71	.30	-		
			Arith. Applications		
Between 1	.66			4.75	5.06
Within 25	1.10	.60	-		
			STEP Listening		
Between 1	100.00			262.00	258.13
Within 25	129.84	.77	-		
			Written Expression		
Between 1	7.3			14.9	13.86
Within 25	28.7	.25	-		
			Oral Expression		
Between 1	19.64			9.58	7.86
Within 25	8.34	2.35	-		

The means and analyses of variance of the pre-test and post-test scores of the 1969-70 experimental and control two-year groups are presented in Tables XVI and XVII. The two year control group obtained significantly higher mean scores on both pre and post-test for arithmetic computation. Analysis of covariance did not produce any change in this significance. The control group retained their superiority after adjustment. The experimental group was significantly higher on the pre-test score of the oral expression test but did not show any significant superiority on the post-test analyses.

TABLE XVI. Analyses of Variance and Means of I.Q. and Pre-test Achievement Scores for the Two year Experimental and Control Groups - 1969

SOURCE OF VARIATION	VARIANCE			MEANS	
df	Mean Square	F	p	Experimental	Control
			I.Q.		
Between 1	22.53			104.00	102.26
Within 28	119.10	.18	-		
			Language		
Between 1	.26			4.94	4.76
Within 28	1.41	.18	-		
			Arith. Computation		
Between 1	5.46			3.86	4.72
Within 28	.48	11.35	.05		
			Arith. Concepts		
Between 1	1.92			5.31	5.82
Within 28	.92	2.08	-		
			Arith. Applications		
Between 1	3.20			4.37	5.02
Within 28	1.15	2.78	-		
			STEP Listening		
Between 1	.61			260.40	260.09
Within 28	115.27	.00	-		
			Written Expression		
Between 1	58.79			14.86	12.06
Within 28	29.73	1.97	-		
			Oral Expression		
Between 1	45.63			9.53	7.06
Within 28	4.38	10.41	.05		

TABLE XVII. Analyses of Variance and Means of I.Q. and Post-test Achievement Scores for the Two year Experimental and Control Groups - 1969

SOURCE OF VARIATION	VARIANCE			MEANS	
df	Mean Square	F	p	Experimental	Control
			Language		
Between 1	1.63			5.19	4.72
Within 28	1.48	1.09	-		
			Arith. Computations		
Between 1	14.00 (11.76)*			4.29 (4.23)*	5.66 (5.71)*
Within 28 (27)*	.86 (.88)*	16.21 (13.27)*	.05 (.05)*		
			Arith. Concepts		
Between 1	1.68			5.12	5.60
Within 28	1.04	1.61	-		
			Arith. Applications		
Between 1	.06			5.05	4.96
Within 28	1.17	.05	-		
			STEP Listening		
Between 1	264.02			268.73	274.66
Within 28	86.43	3.05	-		
			Written Expression		
Between 1	50.69			10.86	13.46
Within 28	25.26	2.00	-		
			Oral Expression		
Between 1	16.13			8.73	7.26
Within 28	8.85	1.82	-		

* adjusted value

DISCUSSION

INTERPRETATION

The two main groups which participated in the last year of the study could be considered as equivalent on all of the initial measures except arithmetic computation where the control group was superior, and on oral expression where the experimental group was superior. The superiority of the control group on the arithmetic score persisted in the post-test analysis and also when analysis of covariance was employed to adjust for initial difference. The significant superiority of the experimental group on the oral expression test persisted on the post-test analysis but was removed when the scores were adjusted for initial differences.

In previous years there were other differences between the two groups. There was no consistent pattern over the three years. At the end of the first year the control group was superior on the language score. At the end of the second year the experimental group was superior on the written and oral expression measures. At the end of the third year, the control group was superior on the arithmetic computation test and the experimental group lost their initial significant superiority in the oral expression test.

The correlations of IQ with achievement measures were not high but for both groups showed a tendency to remain the same or to increase between pre- and post-test. The pattern of relationships which looked so promising in the first year, did not reveal itself in either of the two successive years.

When the test-retest correlations were examined they were found to vary from .13 to .80 with a median of .53. The comment on high variability of the written expression correlations in the 1969 report is accentuated by these data since the variability was increased even further by the addition of these two samples.

The comparison of the mean scores of subjects who were participants for two years indicated only three significant differences in all fifteen pre- and post-test comparisons. The control group was superior in arithmetic computation on pre- and post-tests and also after analysis of covariance. The experimental group, though superior on pre-test oral expression score, was not significantly different on the post test.

IMPLICATIONS

The data of each of the three years of the project do not give any clear indication of the effectiveness of the program. The only indication of effectiveness by the instruments used was in the areas of written and oral expression but the effect is significant only for the 1968-69 year. There is no indication from these analyses that there is any cumulative effect of the program.

It is significant to note that the judgements of the lab team, and especially those of the lab psychologist, based upon intuition and long-term observations, are in agreement with the findings based upon statistical analyses, namely that the effectiveness of the program, as designed, is questionable.

Reports of the psychologist and results of conferences with parents suggest there were positive attitudinal changes in the experimental group, particularly the final year's group. It was noted, however, that although some attitudes about themselves changed, these subjects had many negative fixed ideas about family life, role of family members, school, and teachers. This suggests the need for earlier identification

and earlier treatment, perhaps at the mid-primary age before feelings of defeat and concept of school as a setting for failure have been cemented.

The tools for diagnoses and the instruments for measuring learning outcomes might well be examined more carefully. Greater sophistication in the setting of educational objectives for each child seems indicated.

The Wantagh School District will discontinue the Learning Laboratory program as designed for this study. The Board of Education has approved, in its stead, a demonstration program involving seven and eight year old students who evidence learning problems. This program will be implemented in two elementary schools and will borrow from the Learning Laboratory those elements found to have positive effects.

SUMMARY

Underachievement, defined as a negative relationship between academic performance and intellectual potential, continues to be a persistent concern of educators. This experiment proposed to examine the effectiveness of a special laboratory environment, including diagnostic and prescriptive teaching, on the achievement of selected fifth and sixth grade underachievers in arithmetic and language, over a three year period. This is the final report of the three year experiment.

Although the literature is replete with references to underachievement and emotionality and/or self-concept, and more recently to the relationship between achievement and environmental deprivation, there was found little documentary research that would have particular significance or relevance to the experiment under study here.

This investigator hypothesized that the academic achievement of students who receive individually prescribed instruction based upon careful and comprehensive diagnosis, in a learning laboratory setting, will be significantly better than that of comparable students who remain full-time in a regular classroom. Achievement in the language arts skills of listening, oral expression, and written expression and the arithmetic skills of computation, conceptualization, and application was examined.

For the first year of the experiment (1967-68) thirty (30) fifth and sixth grade students in the Sunrise Park School were selected as the experimental group. An equal number of students from the Mandalay and Forest Lake Schools constituted the control subjects. The groups were equated in terms of sex, I.Q., achievement levels, and prior participation in remedial programs.

During the 1968-69 program, twelve (12) experimental and twelve (12) control subjects (sixth graders) continued for a second year in the project and sixteen (16) new subjects (fifth graders) were included in each of the experimental and control groups.

During the last year of the program, sixteen (16) subjects continued for a second year of the program and twelve (12) new subjects were included in the experiment. A like number of control subjects were involved.

Control subjects followed the traditional programs of their respective classrooms. Experimental subjects were scheduled in the learning laboratory daily. The lab team prepared individual daily and weekly assignments in language arts and arithmetic for each student. A multi-media instructional approach, individual personal counseling, group discussions, tutoring, and self-instructional materials characterized the experimental treatment.

A pre-test - post-test design was employed. Analyses of mean differences in each of the seven test measures was made and the relationship between each of the achievement variables and mental ability was examined for each year for each group. In addition, at the end of the second and third years of the project a within group analysis of the two year effectiveness of the program was made.

Although the two main groups in each of the project years could be considered as equivalent on most of the initial measures, some differences occured between the two groups each year. There was however no consistent pattern over the three years.

The correlations of I.Q. with achievement measures were not high. A pattern of relationships looked promising in the first year of the project but did not reveal itself in either of the two successive years.

The positive effectiveness of a two-year exposure to the program was not substantiated by the analyses for either 1968 or 1969.

None of the data, neither statistical nor observational, provides any clear evidence of the over-all effectiveness of the program as designed. This program will not be continued in the Wantagh District.

A Learning Center program for seven and eight year old problem learners will be implemented in two elementary schools as demonstration programs. Positive elements of the project herein reported will be incorporated in the new Center program. Multi-media, laboratory environment, early diagnosis, emphasis on language development, and the fostering of positive self-concept will characterize the program.

REFERENCES

1. Armstrong, Charles M. "Patterns of Achievement in Selected New York State Schools." Albany, New York State Education Department, 1964, mimeo 79 p.

2. Diener, Charles L. "Similiarities and Differences between Overachieving and Underachieving Students." Personnel and Guidance J., 1960, 38, 396-400.

3. Doll, Ronald C. editor. Individualizing Instruction, Washington, D.C. Association for Supervision and Curriculum Development, 1962, 173 p.

4. Engle, Kenneth B.,Davis, Donald A., and Mazer, Gilbert E. "Interpersonal Effects on Underachievers." J. Educational Research, 1968, 61, 208-210.

5. Goodlad, John I. School, Curriculum, and the Individual, Waltham, Mass., Blaisdell, 1966, 5-20.

6. Grooms, Robert R. and Endler, N.S. "The Effect of Anxiety on Academic Achievement." J. Educational Psychology, 1960, 51, 299-304.

7. Lee, Doris M. Diagnostic Teaching, Washington, D.C. DKNE-NEA, 1966, 52 p.

8. _____ "Teaching and Evaluation" in Evaluation as Feedback and Guide, Washington, D.C., A.S.C.D., 1967, 193-194.

9. N.E.A. Project on Instruction. Education in a Changing Society, Washington, D.C., N.E.A., 1963, 8-12.

10. Peter, Laurence J. Prescriptive Teaching, New York, McGraw Hill, 1965, 237 p.

11. Shane, Harold G. "The School and Individual Differences" in Individualizing Instruction, N.S.S.E. Yearbook LXI, Chicago, Ill., 1962, 60-61.

12. Stamatakos, Louis C. and Shaffer, R.H. "Effects of Special Attention Upon Potentially Superior Freshmen Students." Personnel and Guidance J., 1959, 38, 106-111.

13. Thorndike, Robert L. The Concepts of Over and Underachievement, New York, Bureau of Pub., T.C. Columbia U., 1963, 79 p.

APPENDICES

WRITTEN EXPRESSION
INSTRUCTIONS RELATING TO THE ASSIGNMENT OF WRITTEN REPORTS

The reports to be used in the evaluation of children's informational writing should be good samples of the way children actually write in September or May. Therefore, please select a writing time which will be as free from distractions as possible. Encourage children to do good work, perhaps through your pride in their ability to do "grown-up" work. However, do not over-emphasize the importance of this report.

DIRECTIONS TO CHILDREN

Before you have children write their reports, please familiarize yourself with these directions. You may vary the actual wording, but please follow the underlying principles.

> "In school, you sometimes give reports about something you have learned. Sometimes you give an oral report and sometimes you write your report. Have you ever given a report, perhaps for social studies or about something in science?"

Let children tell the topics of reports they have given. If a child suggests a book report, tell him that a book report is a particular kind of report, but today you would like him to think of the kind of report in which he tells or writes information about a special topic.

> "Before you can give a report, you need to have information about your topic, don't you? How do you get this information?"

Bring out varied sources of information, as units of class work, books, trips, etc.

> "Sometimes you have to look for information before you can plan a report, but very often you already know many of the things you want to say, don't you?" Can you think of a topic about which you already have enough information to write a report?"

Help children to think of topics, perhaps from your review of the work covered last year or of an area you have already studied.

"Today I would like to have you write a report that will tell others about something you know. We want to see how well boys and girls can write reports. Take a few minutes to think about your topic and then plan and write your report."

Take the time needed to help children, as a group or individually, to select their topics. Guide them away from book reports or accounts of personal experiences, perhaps by saying, "Can you tell what you learned about _____?" However, do not use this period as a time to teach them how to limit their topics nor how to organize and write their reports.

As children are working, give them encouragement and answer their questions, but do not correct their work, either directly or through guiding questions. Children may use dictionaries or ask you how to spell words. If a child asks to consult a book to check on a bit of information, let him do so but encourage him to use information he already possesses.

After children have been working for a reasonable time, collect their papers. Let them finish their reports at another time. There is no specified time limit, but all work is to be done in school. When a child finishes his report, encourage him to check it and permit him to copy it if he wishes to do so. However, accept his report when he considers it complete and guard against giving him the impression that you feel he can do better work if he continues to work on it.

Rating Scale for Fourth-Grade Reports

Introduction

The nine-year-old has reached a step on a continuum of writing ability; his papers show evidences of his achievement and of his immaturity. For this project, evaluations are qualitative not quantitative. It is expected that the identification of some aspects of written reports, coupled with descriptions and samples of papers prepared by fourth graders, will provide information about the writing of the nine-year-old.

These four categories identify aspects of writing which are to be evaluated:

I. Quality of ideas, indicating knowledge and understanding of content

II. Organization: evidence of planning in identification of topic; selection and development of content

III. Maturity of language as shown through choice of words and structures

IV. Mechanics of written language, with major emphasis on those elements most necessary for communication

A seven-point scale has been chosen for this evaluation instrument. Scores of seven and six indicate superior work. Scores of five, four, and three indicate the usual range of achievement for these fourth-grade children. Scores of two and one show work below the average range.

For each category, descriptions are given of qualities exhibited by papers at the top, middle, and bottom of the scale. Intermediate scores are assigned to papers exhibiting qualities between these points.

Ten papers are reproduced to show the range of reports written by project children and used in the construction of this scale. Assigned scores illustrate the application of the scale.

Category I: Quality of Ideas

A child's report gives some indication of his knowledge and understanding of content and of his ability to convey this understanding through writing. This may be shown through:

Extent of development (partially length, partly number and development of ideas)

Use of terms: accuracy; meaningfulness of use

Evidence of misunderstanding or limitation of knowledge

Relationship of ideas

Score of 7

Shows considerable knowledge and understanding of topic through:

Reasonably extensive treatment

Accurate interpretation

Correct use of terms

Gives some evidence of understanding relationship of ideas

Score of 4

Shows knowledge and understanding, but less extensive or less accurate than 7

May relate numerous isolated facts but gives little evidence of understanding relationships

May use terms in a parrot-like way

Score of 1

Gives little evidence of knowledge or understanding of topic

May be characterized in at least one of the following ways:

Very brief

Very childish

Inaccurate

Wordy but lacking in substance

Category II: Organization of Ideas

Nine-year-olds are progressing from the stage of writing as they think to consciously selecting and organizing ideas according to some logical plan. Their first steps in organization are to confine ideas to a general topic or to follow the sequence established by content. Many fourth graders take the next step in planning reports by identifying specific parts of a topic and developing each of these, often in separate paragraphs. Occasionally titles and introductions give clues to organizational pattern, but more frequently titles and opening sentences are quite general. Rarely do these children achieve smooth transition between paragraphs; usually they do not attempt to connect paragraphs unless the topic furnishes guidance. Conclusions also cause trouble; most often, children simply stop writing or close with comments to their readers.

Score of 7

Shows planning; usually can be readily outlined

Specific ideas have been selected and are developed in successive paragraphs

Title covers topic; all sections refer to topic

Has an opening statement which, in some way, leads into the topic

May have a conclusion

Score of 4

All ideas relate to the general topic but may be mixed

Title indicates topic

Score of 1

May be too brief to show planning

May contain ideas that are completely irrelevant

May state and repeat only one minor point

May be extremely confused, indicating child's lack of clarity in thinking

Category III: Maturity of Language

This category is designed to evaluate the clarity, preciseness, and variety the child achieves through his use of words and structures. In judging maturity of sentences, attention is given to his expanding use of varied, complex structures to show relationship of ideas. Vocabulary is rated on the basis of extent and of accuracy and preciseness of meaning.

Score of 7

Has variety in sentence length and structure

Uses somewhat longer sentences than average

Shows relationship of ideas through structure (i.e. subordinate clauses, phrases, etc.)

May have some awkward sentences, especially when striving for mature idea, but can be understood

Achieves reasonable preciseness through choice of connectives

Accurately uses a fairly extensive vocabulary

Score of 4

May use short, simple sentences, but uses them correctly

May strive for longer, more complex structures, resulting in some ambiguity

Makes minimal use of and to string together unrelated or non-parallel sentences

Has some variety in sentences

Score of 1

Uses extremely childish language

Tends to use short, simple sentences or loosely-joined compound structures

May have some omission of words or sentence-parts in simple constructions (This does not refer to the longer sentence fragments of expanding language.)

Lacks clarity because of restricted vocabulary and poor choice of words (i.e. use of and rather than more precise connective)

Category IV: Mechanics of Writing

In rating mechanics, major consideration is given to those elements most necessary for communication of ideas. Some consideration of length may be given, especially for extremely short papers of poor quality, because lack of control of mechanics may be an important factor in limiting writing.

These qualities receive major weight in rating:

Sentence completeness

Beginning capitalization and end punctuation of sentences

Legibility of handwriting

Accuracy of spelling of commonly-used words

Indentation for first paragraph

General appearance, discounting procedures used to remove names and dates

These qualities are noted but receive less weight:

Punctuation and capitalization aside from sentence identification

Spelling of unusual words

Form: title, margins, paragraphing

Usage

Score of 7

Shows the following characteristics:

Correct beginning capitalization and end punctuation for sentences

Legible handwriting

Good spelling

Good form: correct title, indentation for recognized paragraphs, margins, etc.

Correct usage

Makes an attempt to use other marks of punctuation

(Not a perfect paper, but of high quality)

Score of 4

Is characterized by:

Correct beginning capitalization and end punctuation for most sentences

Legible handwriting

Good but not perfect spelling

Reasonably good usage

Score of 1

May be extremely difficult to understand because of poor spelling and/or handwriting

May be almost completely lacking in punctuation

May have extremely poor usage

May show lack of control of written mechanics through omission of words and/or word-parts

Prepared by -
Esther Westendorf
1966

ORAL EXPRESSION TEST
SUNRISE PARK LEARNING LABORATORY EXPERIMENT 1967

Introduction

Oral expression, as a skill to be taught and evaluated, has been a long-neglected aspect of the language arts program in elementary education. An exhaustive examination of available literature and research reveals little in the way of formal, objective testing instruments. Helen Mackintosh states that "in --- speaking little dependence can be placed on standardized tests". Both she and Walter Loban suggest that probably the most effective work in this area can be managed at the local school level. They recommend the use of tape recordings, teacher-pupil-made tests and simple rating scales. (1)

This neglect of spoken language is not unique in American education. Andrew Wilkinson states that in England, too, this problem exists because teachers and educationists have considered oral expression instruction unimportant. In terms of evaluation he suggests that "very little is known about the marking of spoken English." (2)

For some time the staff of the Wantagh Elementary Schools has provided instructional leadership in implementing a balanced language arts program with appropriate time and attention to skills of listening and speaking. (3) Little direction has been given, however, to devising procedures for evaluation and measurement of growth in these skills.

As part of the design of the Learning Laboratory Experimental Project, N.Y.S. #02-94-67 the District was committed to the preparation of a test of oral expression and a rating scale for evaluating taped reports. To this end, the Curriculum Coordinator devised a procedure for administering a test of oral expression and a simple rating scale. The Reading Teachers administered the test and a single evaluator, the same person who rated written reports, listened to taped reports and recorded scores.

Test Situation

Each student is to be tested individually in the Reading Room by the Reading Teacher. A standard procedure is to be used in all buildings for both the pre-tests and the post-tests. Pre-tests are administered in October, post-tests in May.

An 8 mm single concept silent film is to be used as motivation for oral reports. The films for all tests shall be similar in content and time. Film selection shall be made on the basis of interest for the student, simplicity of conceptual content, reasonableness of viewing time, and evidence deduced from limited trial use.

In a longitudinal study of pupil's oral speech, Walter Loban has used a similar procedure (among others) using a series of six still pictures (4) .

Instructions for Administering

I. Advance Preparation

1. Have the following materials available and in operating condition:
   a. tape recorder and 2 blank tapes
   b. 8 mm cartridge projector
   c. designated film loop
2. Check the schedule for easy and efficient individual administration
3. Record introduction and identification as follows:

   "This is a record of the Oral Expression Test at the _____ School by Mrs. _____ on October _____, 1967."
4. Prepare a coded list of students' names by assigning each student a number.

II. Test Administration

1. Before meeting with student have film loop set at title frame.
2. Just before each student comes to testing session identify him by code-recording, viz... "This is student number _____."
3. Greet student, establish rapport, and have him sit in front of projector.
4. Use the following text in introducing the test.

   "I have a silent film. The title is _____. I want you to watch it through, two times. I'll turn the projector off. Then I want you to tell me what the film is about and what you saw.

   "I have a tape recorder here. We'll tape what you say."

5. Set the projector in operation, leave the student to view the film. You may observe from a distance that enables you to check on the operation of the film and the number of times the full sequence runs.

6. When the film has run through two (2) times, stop the projector and say - "All right, we're ready. Tell me what the film was about and what you saw."

7. Set the recorder on "Record" and tape the student's response, allowing a maximum of three (3) minutes.

   (If any questions are asked during recording session you might respond as follows: "Why don't you finish telling me what you saw, as best**you** can,"and if it seems appropriate, "We'll talk about that later.")

8. Stop the recorder after 3 minutes (or less) and prepare for the next student.

III Post-Testing

1 When all students have been tested, send the tape or tapes to the Curriculum Center. Be sure the box is properly identified by:

a. School
b. Name of test administrator
c. Name of test
d. Date of test

Instructions for Rating

Oral reports will be evaluated in terms of 3 categories:

1. Voice - (the instrument itself)
2. Content - (what is said)
3. Fluency - (the progress of speech (4)

A six point scale will be used in measurement i.e. 0, 1, 2, 3, 4, 5. Zero (0) will be the lowest score, five (5) the highest.

The evaluator will listen to a taped report through,one time and note "impressions". The tape may be played back as frequently as is necessary to make careful assessment as follows:

Voice - In this category the evaluator shall consider the range and tone of the voice. Is it too high? too low? Is there notable flexibility? Is the tone whining? nasal? raspy? strident?

score line

5	0
Extremely pleasant sounding, neither too low nor too soft.	Inaudible

Content - In this category, the evaluator shall consider the general organization of what is said. He will attend to the ideas expressed; the sequence of ideas; and the exactness, vividness, and appropriateness of vocabulary.

score line

5	0
Superior organization, logical sequence, very articulate.	Complete disorganization, extremely immature vocabulary.

Fluency - In this category the evaluator shall consider the general "flow of expression". He will attend to enunciation, pronunciation, natural word groupings, rhythm, use of stabilizers ("er" - "ah" - "um" - "and then")

score line

5	0
Excellent delivery evidence of meaningful phrasing, appropriate pausing, good rhythm pattern free of unnecessary stop gaps.	Extremely discordant, very poor enunciation, irritating use of "fillers"

Note: Andrew Wilkinson's observations and work with teachers of English in Great Britain were helpful in the preparation of these rating scales. (5)

To arrive at some standardization in rating, independent evaluations and ratings of selected taped reports were made by 3 evaluators. There was a high correlation in the final ratings for all reports by the 3 raters, one of whom was the evaluator selected to rate the reports for this experimental project.

References

1. Helen K. Mackintosh, editor, Children and Oral Language. ACES, ASCD, IRA, NCTE (A Joint Statement of) 1964, pp.28, 29, pp.35, 36

2 Andrew Wilkinson, Spoken English. Educational Review - Occasional Publications Number Two, Birmingham, England: University of Birmingham, 1966. pp.78-83

3. Wantagh Public Elementary Schools, Oral and Written Language Guide Wantagh, N.Y. 1963. 67 pp.

4. Walter Loban, Problems in Oral English Research Report No.5, Champaign, Ill: National Council of Teachers of English, 1966. p.2.

5. Andrew Wilkinson, Spoken English, Educational Review - Occasional Publications Number Two. Birmingham, England: University of Birmingham, 1966. 131 pp.

Prepared by Rose S. Woodhead, 1967.